

## **2-(4-Bromobenzyl) tethered 4-amino aryl/alkyl-5,6,7,8-tetrahydrobenzo[4,5]thieno[2,3-*d*]pyrimidines: Design, Synthesis, anticancer assessment via dual topoisomerase-1/II inhibition, and *in silico* studies**

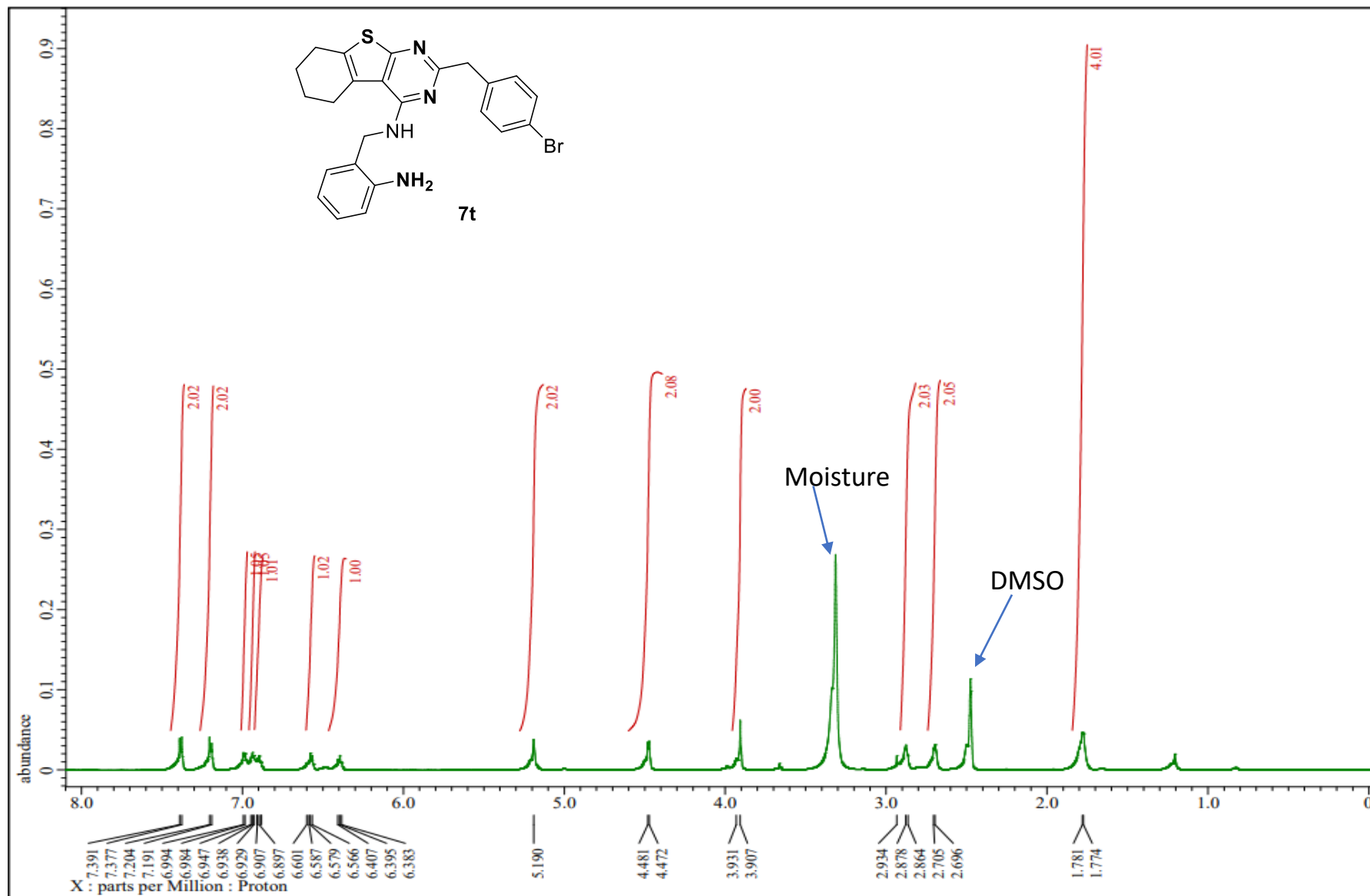
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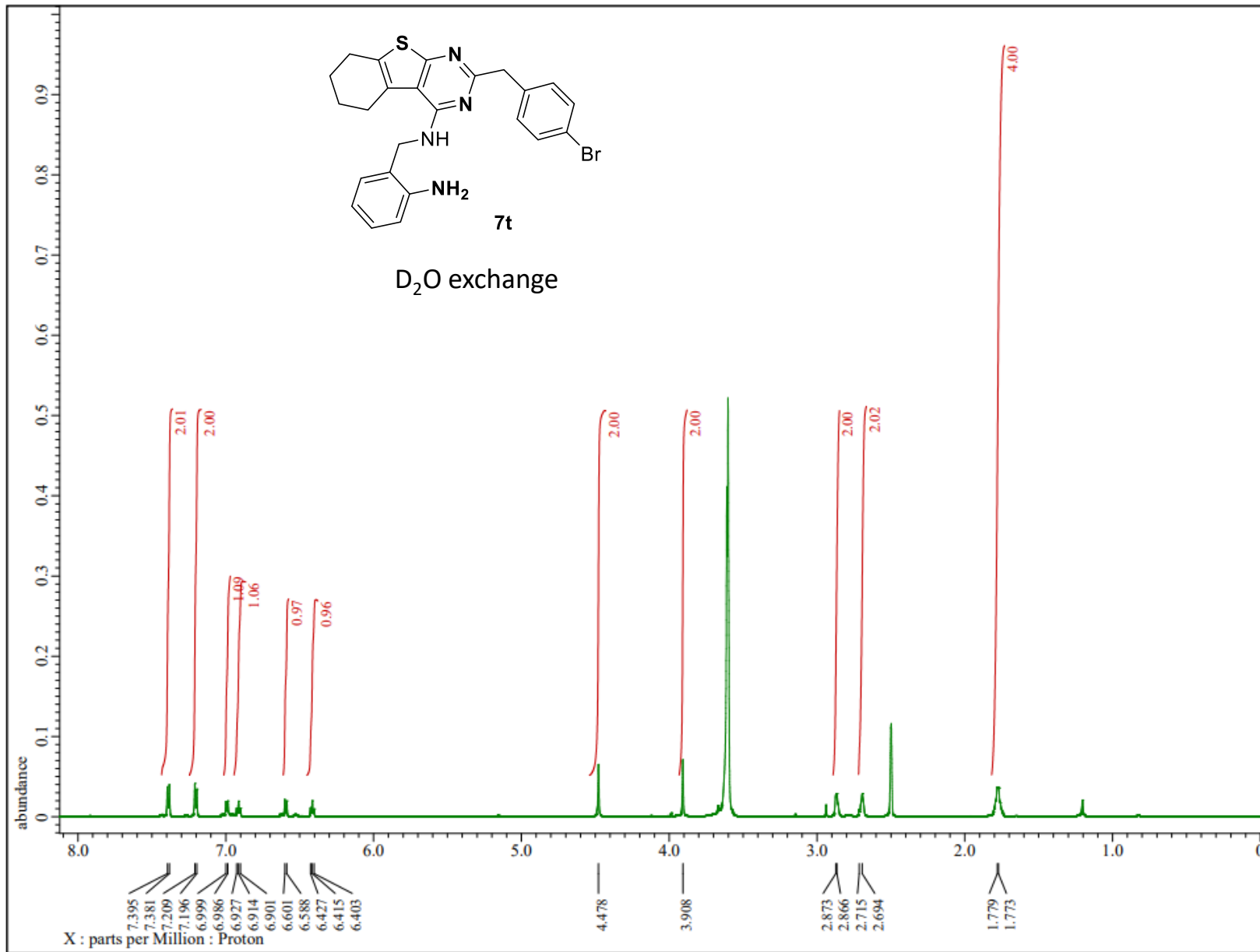
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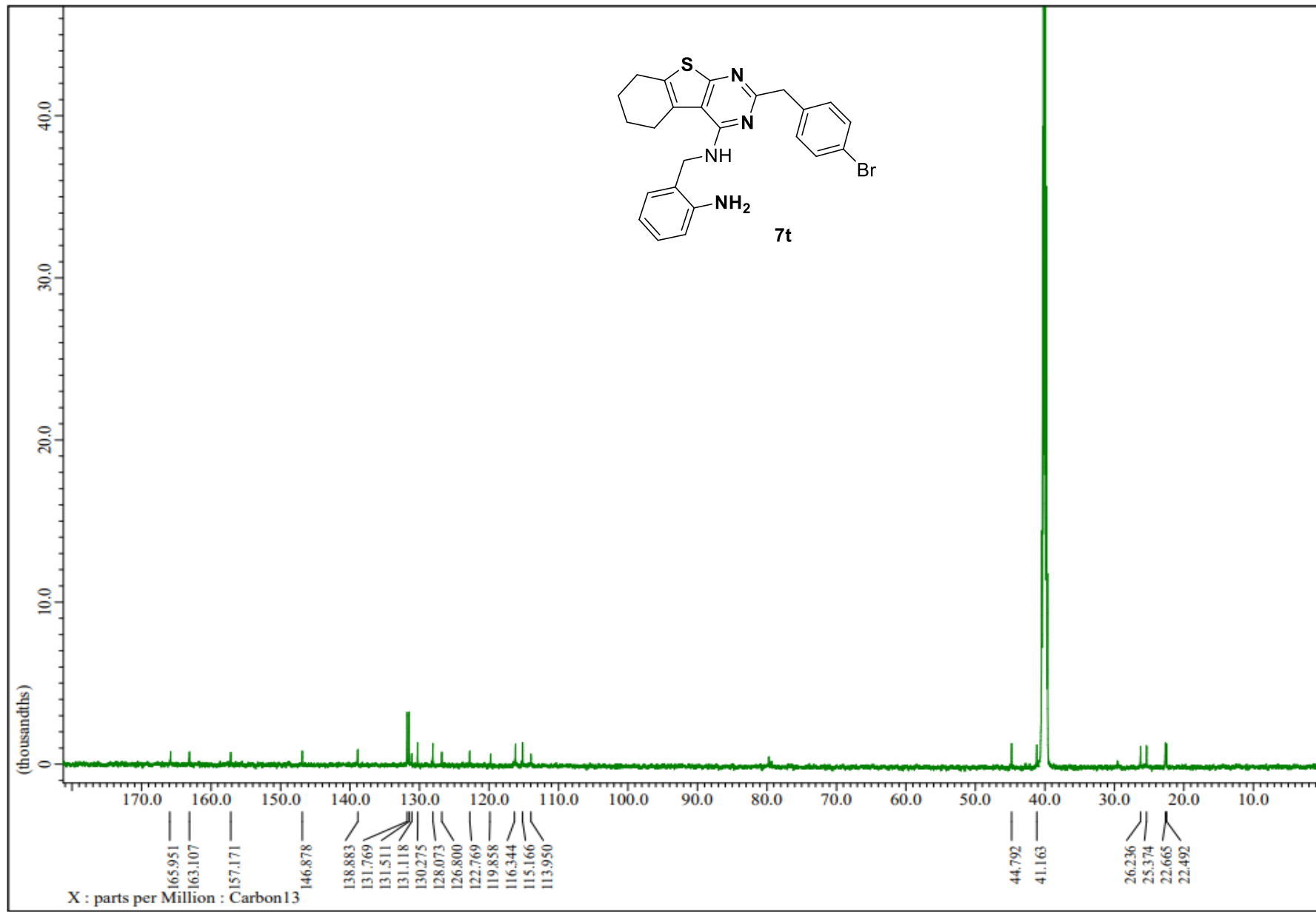
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**Figure S1** <sup>1</sup>H NMR (d<sub>6</sub>-DMSO, 600 MHz) of *N*-(2-aminobenzyl)-2-(4-bromobenzyl)-5,6,7,8-tetrahydrobenzo[4,5]thieno[2,3-*d*]pyrimidin-4-amine (**7t**)



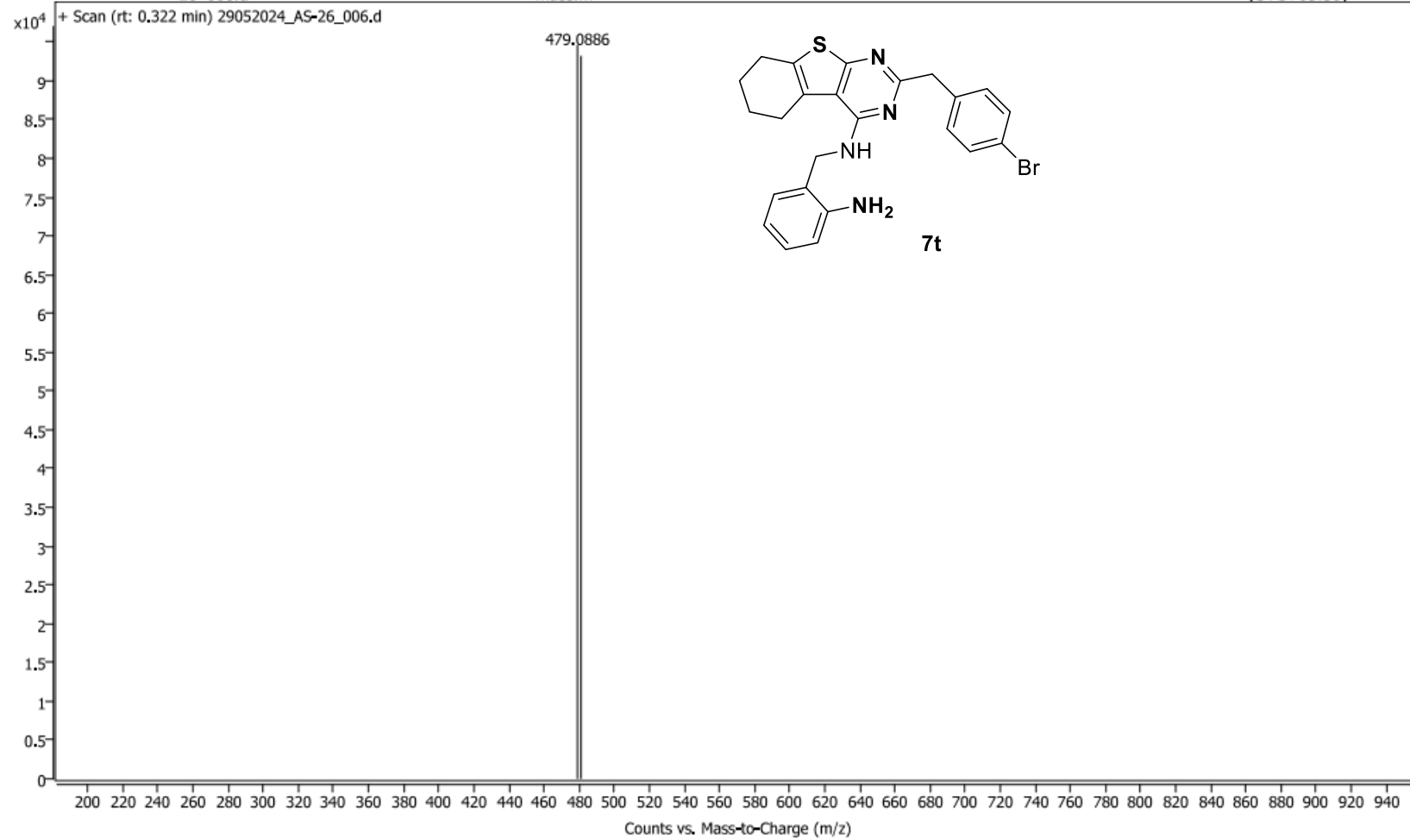
**Figure S2** <sup>1</sup>H NMR (d<sub>6</sub>-DMSO, 600 MHz) of *N*-(2-aminobenzyl)-2-(4-bromobenzyl)-5,6,7,8-tetrahydrobenzo[4,5]thieno[2,3-*d*]pyrimidin-4-amine (**7t**)



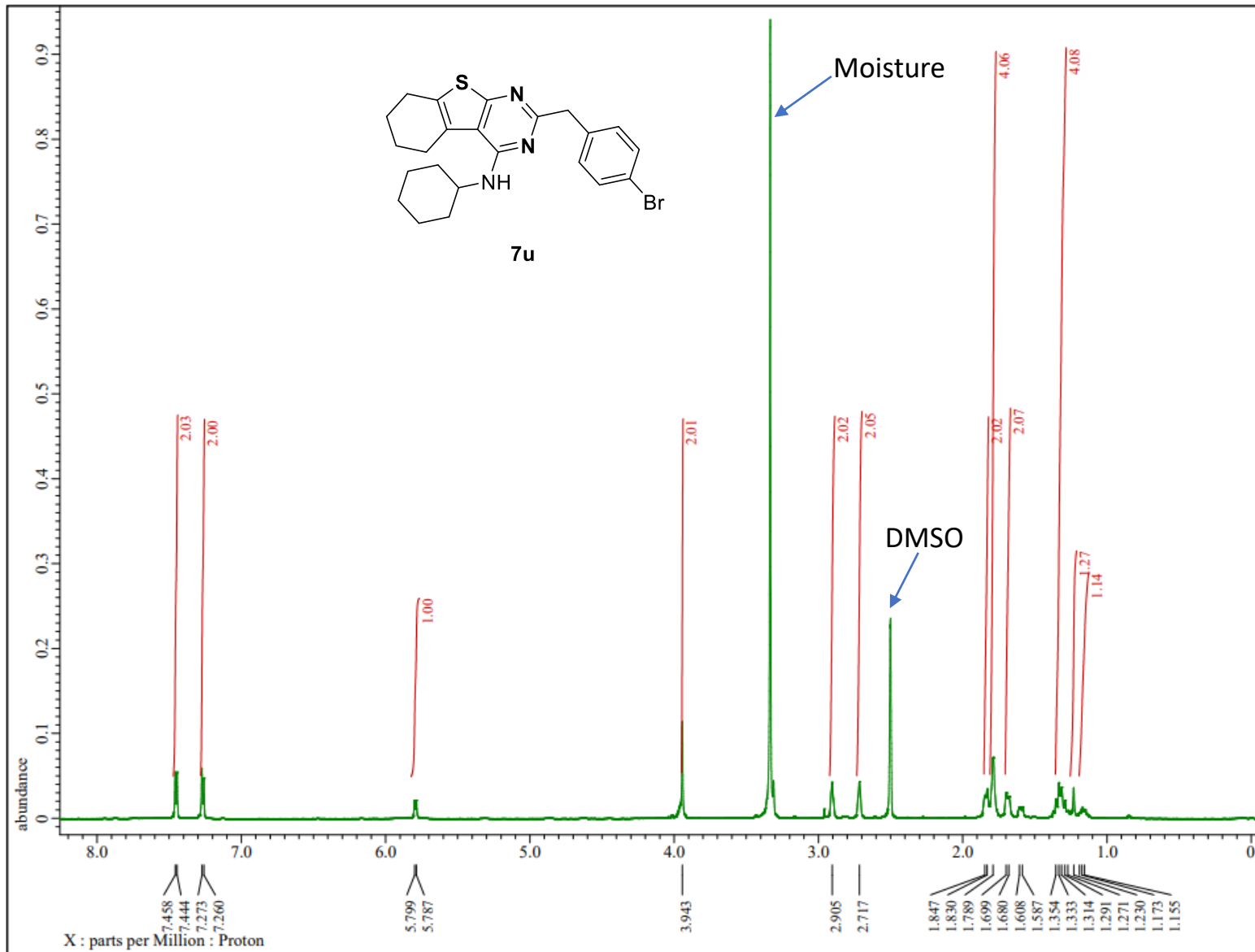
**Figure S3** <sup>13</sup>C NMR (d<sub>6</sub>-DMSO, 151 MHz) of *N*-(2-aminobenzyl)-2-(4-bromobenzyl)-5,6,7,8-tetrahydrobenzo[4,5]thieno[2,3-*d*]pyrimidin-4-amine (**7t**)

# Spectrum Plot Report

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**Figure S4** HRMS (ESI-TOF) of *N*-(2-aminobenzyl)-2-(4-bromobenzyl)-5,6,7,8-tetrahydrobenzo[4,5]thieno[2,3-*d*]pyrimidin-4-amine (**7t**)



**Figure S5**  $^1\text{H}$  NMR ( $d_6$ -DMSO, 600 MHz) of 2-(4-bromobenzyl)-*N*-cyclohexyl-5,6,7,8-tetrahydrobenzo[4,5]thieno[2,3-*d*]pyrimidin-4-amine (**7u**)

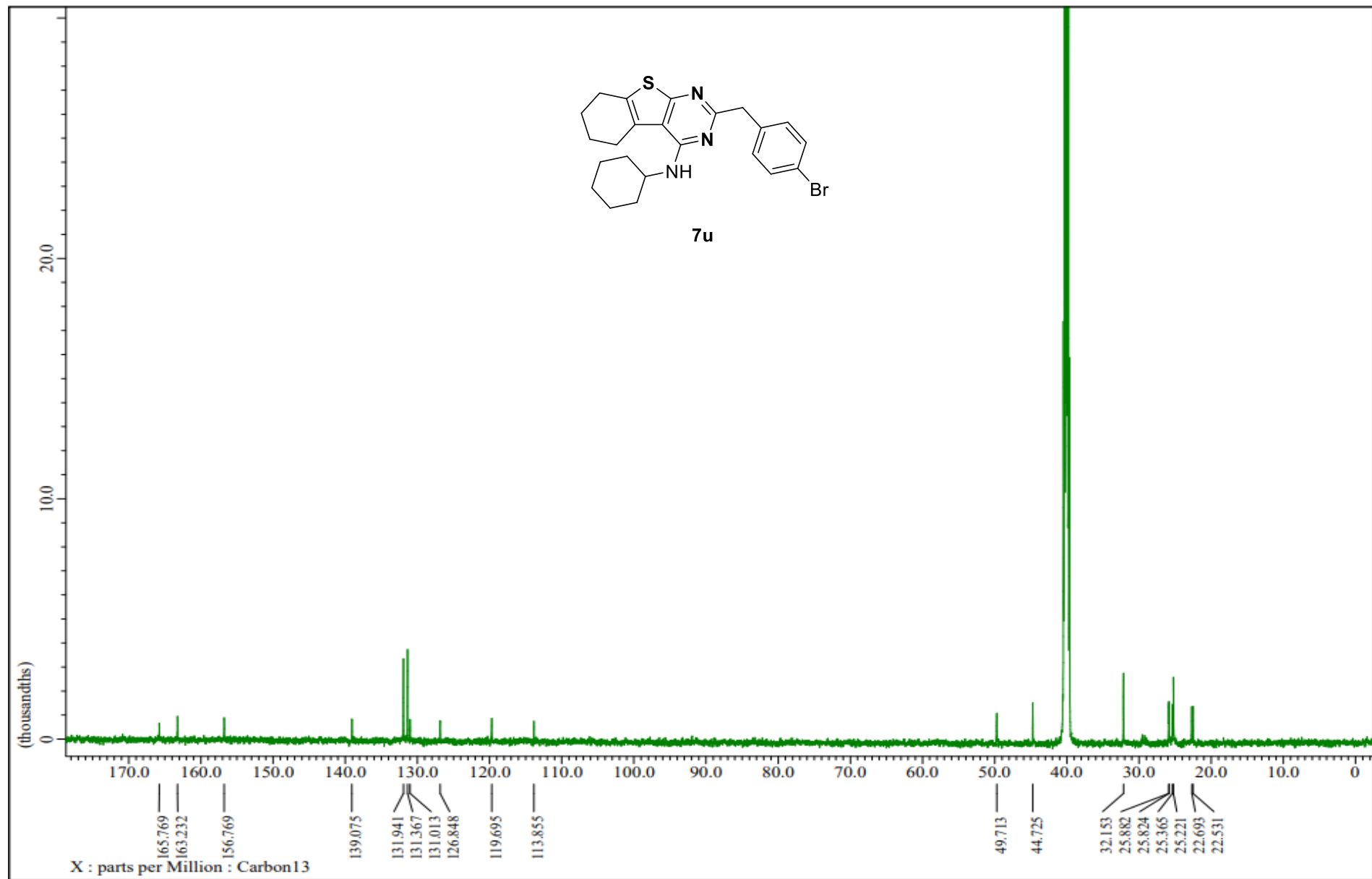
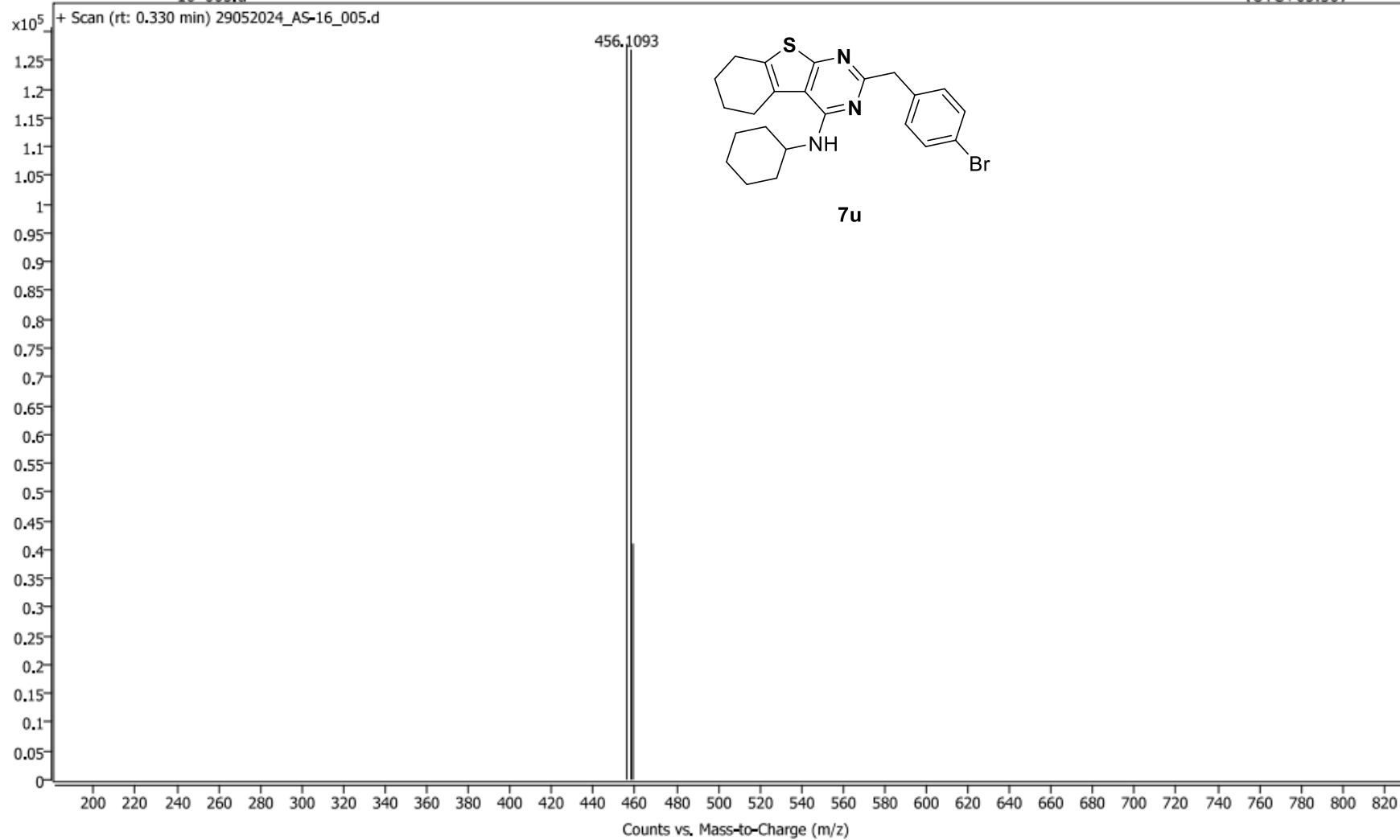


Figure S6  $^{13}\text{C}$  NMR (151 MHz,  $\text{CDCl}_3$ ) of 2-(4-bromobenzyl)-*N*-cyclohexyl-5,6,7,8-tetrahydrobenzo[4,5]thieno[2,3-*d*]pyrimidin-4-amine (**7u**)

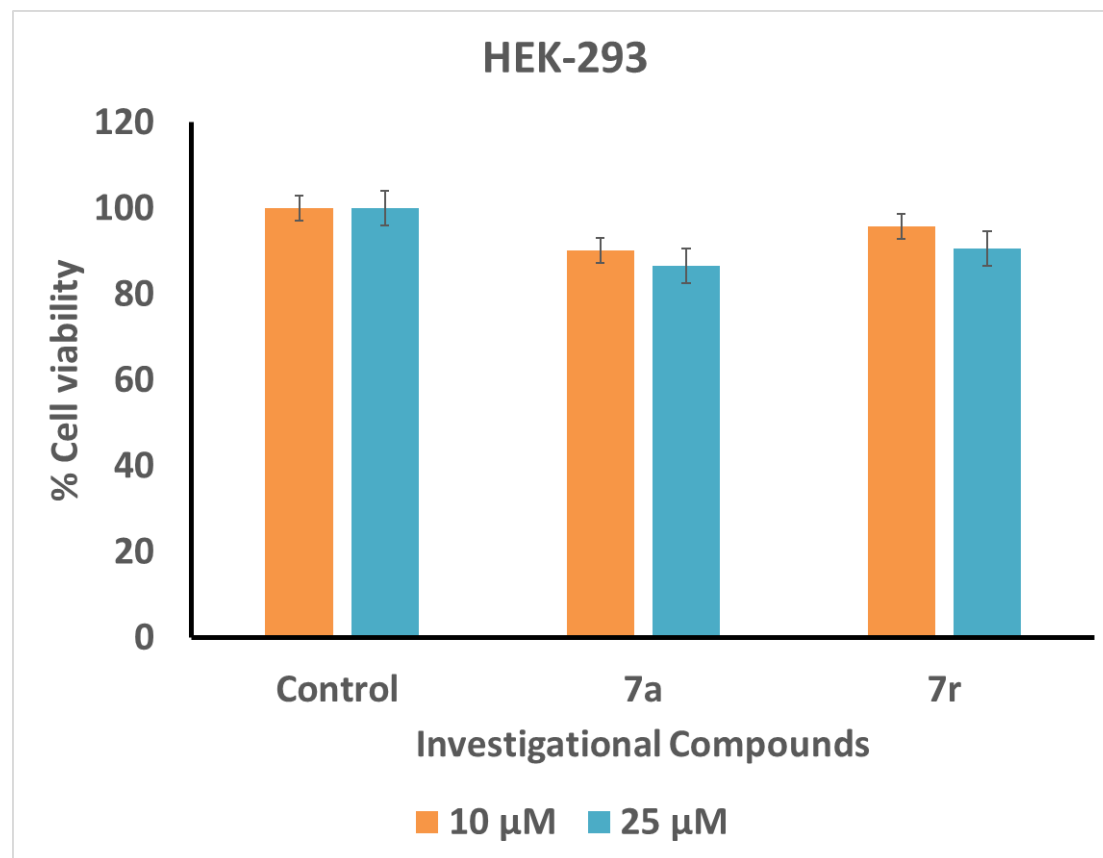
## Spectrum Plot Report

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**Figure S7** HRMS (ESI-TOF) of 2-(4-bromobenzyl)-*N*-cyclohexyl-5,6,7,8-tetrahydrobenzo[4,5]thieno[2,3-*d*]pyrimidin-4-amine (**7u**)





**Figure S8** Assessment of cytotoxicity of active compounds 7a and 7r against HEK-293 cells at 10 and 25 μM concentrations.